

Prebiotics: A Primer

Fiber-rich foods boost beneficial bacteria

You are probably familiar with probiotics, the “good” bacteria found in yogurt, other fermented foods, and supplements that offer health benefits such as supporting the immune system and improving digestive health. Now, a class of nondigestible food ingredients called prebiotics is garnering attention from researchers.

“Prebiotics are essentially foods for bacteria in the gut,” according to Russell Greenfield, MD, clinical assistant professor of medicine at University of North Carolina at Chapel Hill. “As they pass through the digestive tract, they’re not absorbed or broken down, but rather fermented in the colon by the bacteria that live there.” This fermentation produces fatty acids that supply fuel and energy to the cells of the gut and to the good bacteria they need in order to function well. In addition, this process inhibits growth of harmful bacteria such as *E. coli*.

Although early research suggests prebiotics may be helpful for treating eczema, improving bone health, and reducing colon cancer risk, the benefits seem to correlate directly with their ability to increase and support beneficial bacteria.

Promising prebiotics include forms of soluble fiber—called inulin and fructo-oligosaccharides (FOS)—that are naturally present in fruits and vegetables (especially bananas and berries), barley, chicory root, garlic, legumes, oats, onions, and wheat. Inulin and FOS are also available as supplements and are added to fortified foods. Antioxidant phenols in plant-based foods also act like prebiotics, slowing the growth of undesirable microbes and allowing good bacteria to flourish. Unpeeled produce, dark chocolate, herbs and spices, legumes, red wine, and tea are all rich in phenols.

SHOULD YOU USE PREBIOTICS?

“We have a long way to go,” Dr. Greenfield says, “before we have research that gives us clear guidance on how to use

prebiotics and probiotics.” So far, studies have been all over the map—with some performed in labs and some in humans, for various durations, using different strains of bacteria in varying dosages, and applied in very different situations—so the data don’t translate to making a one-size-fits-all recommendation.

That being said, Dr. Greenfield suggests taking a probiotic supplement containing strains supported by substantial research, such as *Lactobacillus* GG and some *Bifidobacterium*. Another strain shown to contribute a large supply of healthy bacteria to the gut is *Bacillus coagulans*. Other strains used in various products might not survive passage through

“Certain prebiotics are naturally present in fruits and vegetables, especially bananas and berries.”

the strong acid of the stomach. Dosages for older children and adults range from 1 to 20 billion CFUs (colony forming units), and 1 billion or less for infants. Probiotics appear to be very safe, but are not recommended for premature infants or those who have suppressed immunity, acute pancreatitis, or who have a central line or a catheter in place.

As for prebiotics, rather than relying on supplements or fortified foods, Dr. Greenfield recommends increasing your intake of the fiber-rich, healthful foods that naturally contain them. “If someone wants to try a prebiotic drink or bar, that’s fine, but it’s not something to use on a consistent basis,” he says. “I’d much rather have people eat the natural foods because I encourage the intake of fiber. But we still have a way to go before recommending prebiotics across the board.”

.....
This monthly column on nutrition is produced in collaboration with the Arizona Center for Integrative Medicine. For more information, visit its website at integrativemedicine.arizona.edu.